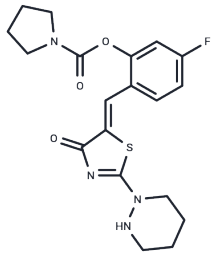
Data Sheet (Cat.No.T5444)

TargetMol

CLP290

Chemical Properties



CAS No. : 1181083-81-7

Formula: C19H21FN4O3S

Molecular Weight: 404.46

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	CLP290 is an activator of the neuron-specific K+-Cl cotransporter KCC2 and displays potential for the treatment of a wide range of neurological and psychiatric indications.
Targets(IC50)	Potassium Channel
In vivo	In vivo co-treatment with morphine and oral CLP290 prevented membrane KCC2 downregulation in SDH neurons.?Concurrently, co-treatment with CLP290 significantly mitigated MIH and acute administration of CLP257 in established MIH restored normal nociceptive behavior.
Animal Research	Morphine sulfate (50 mg/ml) was diluted in saline sterile solution immediately before injection.?Morphine or saline were subcutaneously injected twice a day (10 mg/kg;?9 a. m. 6 p.m.) in na?ve adult rats.?The KCC2 enhancer CLP257 and its carbamate pro-drug CLP290 were freshly diluted in 20% 2-hydroxypropyl-β-cyclodextrin (HPCD) prior injection.?CLP257 or vehicle were delivered intraperitoneally after 7 8 days of morphine or saline, as described (100 mg/kg).?CLP290 or vehicle were delivered orally by gavage twice a day for the whole duration of the morphine/saline treatment (100 mg/kg).

Solubility Information

Solubility	DMSO: 12 mg/mL (29.67 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (4.94 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.4724 mL	12.3622 mL	24.7243 mL
5 mM	0.4945 mL	2.4724 mL	4.9449 mL
10 mM	0.2472 mL	1.2362 mL	2.4724 mL
50 mM	0.0494 mL	0.2472 mL	0.4945 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Ferrini F, et al. Enhancing KCC2 function counteracts morphine-induced hyperalgesia. Sci Rep. 2017 Jun 20;7(1): 3870.